

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently amended) A photolithography mask for optically transferring a pattern formed in said mask onto a substrate, said mask comprising:

a plurality of resolvable features to be printed on said substrate; and

a non-resolvable optical proximity correction feature disposed between two of said plurality of resolvable features, said non-resolvable optical proximity correction feature having a transmission coefficient in the range of greater than 0% to less than 100%,

~~wherein said non-resolvable optical proximity correction feature has a width dimension which is less than the width of a space separating said two of said plurality of resolvable features, said non-resolvable optical proximity correction feature being disposed in the center of the space separating said two of said plurality of resolvable features~~

said transmission coefficient of said non-resolvable optical proximity correction feature being selected so as to minimize a second order diffraction component corresponding to said non-resolvable optical proximity correction feature.

2. (Cancelled)

3. (Cancelled)

4. (Currently amended) The photolithography mask of claim 1, further comprising a plurality of said non-resolvable optical proximity correction features, wherein one of said non-resolvable optical proximity correction features is placed between ~~multiple~~ pairs of said resolvable features.

5. (Cancelled)

6. (Cancelled)

7. (Original) The photolithography mask of claim 1, wherein said mask is illuminated utilizing off-axis illumination.

8. (Currently amended) A computer program product for controlling a computer comprising a recording medium readable by the computer, means recorded on the recording medium for directing the computer to generate at least one file corresponding to a photolithography mask for optically transferring a pattern formed in said mask onto a substrate, said mask comprising:

a plurality of resolvable features to be printed on said substrate; and

a non-resolvable optical proximity correction feature disposed between two of said plurality of resolvable features, said non-resolvable optical proximity correction feature having a transmission coefficient in the range of greater than 0% to less than 100%,

~~wherein said non-resolvable optical proximity correction feature has a width dimension which is less than the width of a space separating said two of said plurality of resolvable features said non-resolvable optical proximity correction feature being disposed in the center of the space separating said two of said plurality of resolvable features~~

said transmission coefficient of said non-resolvable optical proximity correction feature being selected so as to minimize a second order diffraction component corresponding to said non-resolvable optical proximity correction feature.

9. (Cancelled)

10. (Cancelled)

11. (Currently amended) The computer program product of claim 8, wherein said mask further comprises a plurality of said non-resolvable optical proximity correction features, wherein one of said non-resolvable optical proximity correction features is placed between

~~multiple~~ pairs of said resolvable features.

12. (Cancelled)

13. (Cancelled)

14. (Original) The computer program product of claim 8, wherein said mask is illuminated utilizing off-axis illumination.

15. (Currently amended) A method of transferring a lithographic pattern from a photography mask onto a substrate by use of a lithographic exposure apparatus, said method comprising the steps of:

forming a plurality of resolvable features to be printed on said substrate; and

forming at least one non-resolvable optical proximity correction feature, said at least one non-resolvable optical proximity correction feature having a transmission coefficient in the range of greater than 0% to less than 100%,

~~wherein said non-resolvable optical proximity correction feature has a width dimension which is less than the width of a space separating said two of said plurality of resolvable features, said non-resolvable optical proximity correction feature being disposed in the center of the space separating said two of said plurality of resolvable features~~

said transmission coefficient of said non-resolvable optical proximity correction feature being selected so as to minimize a second order diffraction component corresponding to said non-resolvable optical proximity correction feature.

16. (Cancelled)

17. (Cancelled)

18. (Currently amended) The method of claim 15, further comprising the step of forming one of said non-resolvable optical proximity correction features between ~~multiple~~ pairs

of said resolvable features.

19. (Cancelled)

20. (Cancelled)

21. (Original) The method of claim 15, wherein said mask is illuminated utilizing off-axis illumination.

22. (Currently amended) A device manufacturing method comprising the steps of:

- (a) providing a substrate that is at least partially covered by a layer of radiation-sensitive material;
- (b) providing a projection beam of radiation using a radiation system;
- (c) using a pattern on a mask to endow the projection beam with a pattern in its cross-section;
- (d) projecting the patterned beam of radiation onto a target portion of the layer of radiation-sensitive material,

wherein, in step (c), use is made of a mask comprising:

a plurality of resolvable features to be printed on said substrate; and

a non-resolvable optical proximity correction feature disposed between two of said plurality of resolvable features, said non-resolvable optical proximity correction feature having a transmission coefficient in the range of greater than 0% to less than 100%,

~~wherein said non-resolvable optical proximity correction feature has a width dimension which is less than the width of a space separating said two of said plurality of resolvable features, said non-resolvable optical proximity correction feature being disposed in the center of the space separating said two of said plurality of resolvable features~~

said transmission coefficient of said non-resolvable optical proximity correction feature

being selected so as to minimize a second order diffraction component corresponding to said non-resolvable optical proximity correction feature.

23. (Previously presented) A method of transferring a lithographic pattern from a photography mask onto a substrate by use of a lithographic exposure apparatus, said method comprising the steps of:

forming a plurality of resolvable features to be printed on said substrate;

forming at least one non-resolvable optical proximity correction feature, said at least one non-resolvable optical proximity correction feature having a transmission coefficient in the range of greater than 0% to less than 100%, and

adjusting the width, position and transmission coefficient of said non-resolvable optical proximity correction feature so as to maximize the process window for printing said plurality of resolvable features.

24. (Currently amended) The method of claim 23, further comprising the step of forming one of said non-resolvable optical proximity correction features between ~~multiple~~ pairs of said resolvable features,

wherein the width, position and transmission coefficient of each of said non-resolvable optical proximity correction features is adjusted so as to maximize the process window for printing said plurality of resolvable features.

25. (Previously presented) The method of claim 24, wherein said non-resolvable optical proximity correction features function to minimize the increase in a second order diffraction component of said mask.

26. (Previously presented) The method of claim 24, wherein said non-resolvable optical proximity correction features function to reduce an isofocal inflection point associated

with a given set of said resolvable features.

27. (Previously presented) The method of claim 15, further comprising the step of adjusting the width, position and transmission coefficient of said non-resolvable optical proximity correction feature so as to maximize the process window for printing said plurality of resolvable features.

28. (New) A photolithography mask for optically transferring a pattern formed in said mask onto a substrate, said mask comprising:

a plurality of resolvable features to be printed on said substrate; and

a plurality of non-resolvable optical proximity correction features, said non-resolvable optical proximity correction feature having a transmission coefficient in the range of greater than 0% to less than 100%,

wherein said plurality of resolvable features include densely spaced features and non-densely spaced features, said non-resolvable optical proximity features being disposed between said non-densely spaced features, said transmission coefficient of said non-resolvable optical proximity correction features disposed between said non-densely spaced features being adjusted such that the difference between an isofocal inflection point associated with said non-densely spaced resolvable features and an isofocal inflection point associated with said densely spaced resolvable features is minimized.

29. (New) A computer program product for controlling a computer comprising a recording medium readable by the computer, means recorded on the recording medium for directing the computer to generate at least one file corresponding to a photolithography mask for optically transferring a pattern formed in said mask onto a substrate, said mask comprising:

a plurality of resolvable features to be printed on said substrate; and

a plurality of non-resolvable optical proximity correction features, said non-resolvable optical proximity correction feature having a transmission coefficient in the range of greater than 0% to less than 100%,

wherein said plurality of resolvable features include densely spaced features and non-densely spaced features, said non-resolvable optical proximity features being disposed between said non-densely spaced features, said transmission coefficient of said non-resolvable optical proximity correction features disposed between said non-densely spaced features being adjusted such that the difference between an isofocal inflection point associated with said non-densely spaced resolvable features and an isofocal inflection point associated with said densely spaced resolvable features is minimized.

30. (New) A method of transferring a lithographic pattern from a photography mask onto a substrate by use of a lithographic exposure apparatus, said method comprising the steps of:

forming a plurality of resolvable features to be printed on said substrate; and

forming at least one non-resolvable optical proximity correction feature, said at least one non-resolvable optical proximity correction feature having a transmission coefficient in the range of greater than 0% to less than 100%,

wherein said plurality of resolvable features include densely spaced features and non-densely spaced features, said non-resolvable optical proximity features being disposed between said non-densely spaced features, said transmission coefficient of said non-resolvable optical proximity correction features disposed between said non-densely spaced features being adjusted such that the difference between an isofocal inflection point associated with said non-densely spaced resolvable features and an isofocal inflection point associated with said densely spaced resolvable features is minimized.